UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,668	02/04/2004	Kadangode K. Ramakrishnan	111700CON-1	3596

26652 7590 08/20/2004	EXAMINER
AT&T CORP. P.O. BOX 4110 MIDDLETOWN, NJ 07748	LEE, CHI HO A

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/771,668	RAMAKRISHNAN, KADANGODE K.
	Examiner	**Art Unit**	
	Andrew Lee	2663	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 February 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>14-33</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>14-33</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   **Office Action Summary**   Part of Paper No./Mail Date 08172004

DETAILED ACTION

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.   Claims 14, 21, 26, 27, 28, 31 are rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claim 19 of U.S. Patent

No. 5,974,028. Although the conflicting claims are not identical, they are not patentably

distinct from each other because claim 19 of U.S. Patent Number 5,974,028 encompass

the limitation of the Claims 14, 21, 26, 27, 28, 31. In particular, claim 19 recites, a

means for identifying a first packet from the plurality packet having a non-congestion

error (a bit error); a means for sending a selective acknowledgement the first packet

was not completed received.

Although, claim 19 of U.S. Patent Number 5,974,028 is an apparatus, it would

have been obvious to one skilled in the art to use the apparatus of claim 19 to perform

the function of claims14, 21, 26, 27, 28, 31.

Furthermore, claim 19 of fails to explicitly teach, "if all packets for a window size

are received". However, claim 19 refers to a "non-congestion error" over a TCP

connection. Hence, "non-congestion error" inherently refers to receiving "all packets for

a window size".

3.   Claim 19 is rejected under the judicially created doctrine of obviousness-type

double patenting as being unpatentable over claim 19 of U.S. Patent No. 5,974,028 in

view of Scheller et al U.S. Patent Number 5,010,553.

Claim 19 refer to Claim 19 of U.S. Patent Number 5,974,028, Claim 19 fails to

explicitly teach, "correcting said bit error if the bit error occurs within said packet

header".

However, Scheller teaches that a CRC is added into the header of the packet

and when error detected, the error FEC (See col. 7, lines 4-36). One skilled in the art

would have been motivated to modify the Claim 19 of instant application to include CRC

and FEC function into the header of the packet for error free data transmission.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 14-16, 21, 24, 25-33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Olson U.S. Patent Number 5,245,616.

Re Claims 14, 21, 26-28, 31, Olson teaches a node transmitting a sequence of packets (window packets with a window size) to a receiving node, wherein the receiver determines whether the last message packet was corrected received (all packets...identifying a bit error) and selectively acknowledges the detected erred packet (See col. 6, lines 45-68).

Olson fails to explicitly teach that the transmission protocol is a TCP connection. However, one skilled in art would have been motivated to modify the acknowledgement technique of Olson into the TCP protocol to enable effective error detection of plurality of packets in the transmission window. In so doing, reliable error-free data transmission is facilitated by selectively acknowledging erred message whereby un-needed duplicate message packet transmission can be reduced (See col. 2, lines 26-28).

It is well known to one skilled that in TCP connection, duplicate acknowledgements are transmitted to decrease the size of the window due to packet loss. Claim 14 requires that, "all packets are received". Hence, no packet lost.

One skilled in the art would have been motivated to "suppress duplicate acknowledgements" in the TCP connection to maintain the current size of the window for throughput.

Re Claims 15, 24, 29, 32 refer to fig. 3 wherein the status field (a plurality of acknowledgement bits) in the message packet to indicate error corresponding the received packets in the transmission window.

Re Claims 16, 25, 30, 33 refer to Claim 15, (0, 1) bit values are used in the status field to indicate bit error in the status field.

6.   Claims 17, 18, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Olson U.S. Patent Number 5,245,616 in view of RFC 2018.

Re Claims 17, 22, As Olson teaches selectively acknowledging the packet

with/out error in the receive packet, Olson fails to explicitly teach "for each packet...not

received...in the selective acknowledgement". However, RFC 2018 teaches SACK

mechanism wherein the receiver sends back SACK packets to the sender to inform the

sender that the particular packet was not received whereby the sender can only

retransmit the mission data segment. One skilled in the art would have been motivated

to modify the selective acknowledgement of Olson to include SACK of missing packets

by RFC 2018 to selectively retransmit only the missing packets. Hence, when only

missing packets are retransmitted, it would improve throughput.

Re Claims 18, 23, if all the packets were not received, it would inherently indicate

congestion in the network. Hence, sending duplicate acknowledgement would have

indicated to the sender to initiate congestion control mechanism.

7.   Claims 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Olson U.S. Patent Number 5,245,616 in view of Scheller et al U.S. Patent Number

5,010,553.

Re Claim 19, refer to Claim 14, Olson fails to explicitly teach, "correcting said bit

error if the bit error occurs within a packet header.".

However, Scheller teaches that a CRC is added into the header of the packet

and when error detected, the error FEC (See col. 7, lines 4-36). One skilled in the art

would have been motivated to modify the Olson to include CRC and FEC function into the header of the packet for error free data transmission.

Re Claim 20, Scheller et al CRC code is added into the header and another CRC is appended into the payload (See col. 5, lines 8-15). Marking the first packet as received error is dependent not only in the header but also in the payload field. Hence, when error occurs in the payload, the first packet is marked even though error has not occur in the packet header.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 703-305-1500. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AI   8/16/04